

12
19. The seed metering apparatus according to Claim 8, wherein the rim defines a circumferential opening therein to allow air to flow into said seed reservoir along at least a portion of the path of movement of the apertures.

16
20. The seed metering apparatus according to Claim 12 wherein the opening arranged proximate to the seed discharge area is formed in the second housing portion as an elongate slot adjacent to the trailing end of the chamber.--

REMARKS

In the Office Action mailed September 22, 1997, the Examiner objects the drawings for failing to include certain reference characters; objects to the specification and claim 2 for certain informalities; and requests a new title more indicative of the invention. The Examiner also rejects claims 1-11, 13 and 14 under 35 U.S.C. §112, second paragraph, due to minor informalities. Additionally, claims 1, 2, 12 and 15 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,949,869 to Ribouleau and claim 4 is rejected under 35 U.S.C. §103 as being obvious in view of Ribouleau. The Examiner indicates, however, that claims 3, 5-11, 13 and 14 would be allowable if rewritten in proper form.

Applicants appreciate the time provided by the Examiner in considering this application and in identifying allowable subject matter.

By this Amendment, Applicants have provided a new title and abstract of the invention and have revised the specification and drawings to correct, among other things, the

minor errors identified by the Examiner. Applicants also have revised claims 1-15 and added new claims 16-20 to correct the informalities identified by the Examiner and to more clearly recite the subject matter regarded as the invention. In making these revisions, care has been taken to ensure that no new matter has been added and that the claims remain supported by the specification and drawings. Applicants therefore respectfully request that the objections to the title and disclosure, and the rejection of the claims under 35 U.S.C. §112, second paragraph, be withdrawn.

Independent Claim 1 Is Allowable

Applicants also have amended claims 1 and 6 as recommended by the Examiner to place these independent claims in condition for allowance. For example, the Examiner indicates that claim 3 would be allowable if rewritten in proper independent form. To expedite prosecution of this application, and in addition to correcting minor informalities, independent claim 1 has been amended generally to include the subject matter of dependent claim 3.

Amended independent claim 1 now recites a seed metering apparatus including, among other things, a housing divided into a seed chamber and a vacuum chamber by a disc having a row of apertures that are moved along a predetermined path, wherein the housing includes an axially extending circumferential wall having a circumferential opening that is sized to allow air to flow into the seed chamber along at least a portion of the path of movement of the apertures.

Applicants note that independent claim 1 has not been rewritten to include all of the elements originally recited by claims 1-3; however, Applicants respectfully submit that amended independent claim 1 is allowable over the prior art of record at least for the reasons previously recognized by the Examiner with regard to original claim 3. For example, the prior

art of record does not disclose or suggest a seed metering apparatus as claimed wherein a housing, which is divided by a rotatable disc having a circular row of apertures into a seed chamber and a vacuum chamber, is provided with an axially extending circumferential wall having a circumferential opening to allow air to flow into the seed chamber along at least a portion of the path of movement of the apertures. Applicants therefore respectfully request that amended independent claim 1, as well as claims 2-5 and new claims 16-17 depending therefrom, be allowed.

Independent Claim 6 Is Allowable

The Examiner also indicates that independent claim 6 would be allowable if amended to overcome the rejections set forth under 35 U.S.C. §112. As noted above, independent claim 6 has been revised to correct the minor informalities identified by the Examiner, as well as to more clearly recite the subject matter regarded as the invention. Applicants therefore respectfully submit that amended independent claim 6 is allowable for the reasons originally recognized by the Examiner. Claims 7-11 and new claims 18-19 also are allowable at least for depending from allowable independent claim 6.

Independent Claim 12 Is Allowable

On the merits, the Examiner notes that Ribouleau discloses a suction type seed metering device having a disc 18, and a housing divided into two enclosures -- one enclosure defining a chamber for seeds and the other enclosure constituting a vacuum chamber with an opening 38. The Examiner therefore believes that the apparatus of claims 1, 2, 12 and 15 are anticipated by Ribouleau and that the apparatus of claim 4 would have been obvious.

Applicants respectfully disagrees with the conclusions of the Examiner and, therefore, respectfully traverse these rejections.

Claims 1-11 and 16-19 are allowable at least for the reasons set forth above. With regard to independent claim 12, Applicants note that anticipation requires that each and every claimed element be disclosed in a single prior art reference. Independent claim 12 recites a seed metering apparatus including a first housing portion defining a seed reservoir and a second housing portion defining a vacuum chamber having a trailing end, wherein an opening is provided in either the first or second housing portion proximate to a seed discharge area of the apparatus to promote the release of seeds from a disc metering member. Applicants respectfully submit that Ribouleau does not disclose or suggest each and every element of independent claim 12.

For example, Ribouleau does not disclose a seed metering apparatus having an opening proximate to a seed discharge area as claimed. As clearly shown in Fig. 2, the air intake opening 38 provided in the distributor of Ribouleau is spaced substantially from the plug 34 that is used to interrupt the vacuum action of the depression passageway 26. See, Col. 4, lines 2-10. Ribouleau therefore cannot anticipate the seed metering apparatus of independent claim 12. Furthermore, and in direct contrast with providing an opening proximate to a seed discharge area to promote the release of seeds as claimed, the air intake opening 38 of Ribouleau is specifically provided to more securely retain seeds of various sizes on the distributor disk 18. See, Col. 4, lines 11-45. As such, Applicants respectfully submit that the seed metering apparatus of independent claim 12 likewise would not have been obvious in view of Ribouleau, either individually or in combination with the remaining prior art of record. Applicants therefore

request that independent claim 12, as well as claims 13-15 and new claim 20 depending therefrom, be allowed.

The Dependent Claims Are Further Allowable

The dependent claims of this application recite additional aspects of the present invention that are not disclosed or suggested by the prior art of record. For example, new claim 16, which depends from independent claim 1, further recites that the housing includes an opening provided proximate to the seed drop area to enhance the release of seeds from the disc. As noted above with regard to independent claims 6 and 12, the prior art of record does not disclose such a configuration. Dependent claims 5, 11 and 14 each recites the opening provided proximate to the seed drop or discharge area includes a plurality of spaced holes, while dependent claims 17, 18 and 20 each recites that the opening provided proximate to the seed drop or discharge area includes an elongate slot adjacent to the trailing end of the vacuum chamber. This elongate slot is shown in the original drawings of this application, and are more clearly identified by the amendments provided herewith. Additionally, dependent claims 9 and 15 recite that an integral air cut-off is provided at the seed discharge area, and dependent claims 13 and 18 recite that the circumferential rim of the housing defines an opening to allow air to flow into the housing or seed reservoir along at least a portion of the path of movement of the apertures in the disc. Applicants respectfully submit that the dependent claims of this application are further allowable at least for these additional reasons.

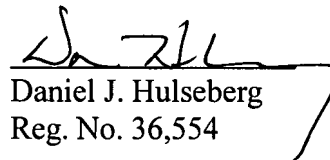
In conclusion, and upon consideration of the newly-cited patent references provided by the Examiner, Applicants respectfully submit that pending claims 1-20 of this application are allowable. Applicants therefore respectfully request withdrawal of the rejection

of claims 1-15, and the timely allowance of pending claims 1-20. Favorable action is respectfully requested.

If any additional information is required, the Examiner is invited to contact the new attorney of record, Daniel J. Hulseberg, at (312) 701-8606. Please note that this matter has been accorded a new Attorney Docket number, 97394225.

The Commissioner is hereby authorized to charge any additional fees (or credit any overpayment) associated with this communication to our Deposit Account No. 13-0019. If a fee is required for an extension of time under 37 C.F.R. §1.136 not accounted for above, such extension is requested and such fee should also be charged to our Deposit Account.

Respectfully submitted,


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